

ABSTRACT

Multiuser detection method and device in DS-CDMA mode

Method of detecting a plurality of symbols ($\mathbf{d}_k(i)$) transmitted by or for a plurality K of users, each symbol belonging to a modulation constellation and being the subject of a spectral spreading by means of a spreading sequence, the said method comprising a filtering step (310₁,...,310_K) adapted for supplying a complex vector ($\mathbf{y}(i), \tilde{\mathbf{y}}(i)$) characteristic of the said received signal, the said complex vector being decomposed into a first vector ($\mathbf{y}^R(i), \tilde{\mathbf{y}}^R(i)$) and a second vector ($\mathbf{y}^I(i), \tilde{\mathbf{y}}^I(i)$), at least the closest neighbours of the first and second vectors being sought (330, 331) within a lattice of points, (Λ, Ω) generated by the said modulation constellations, the transmitted symbols being estimated from the components of the said closest neighbours.

Fig. 3